

2.19 Response to Water “Make-Up” Alarms

1. **Purpose:**

To provide instructions to Main Control Room (MCR) operators, Collider-Accelerator Support (CAS), and the Water Systems Group, for the response to “make-up” alarms on systems listed in Section 2.2.

Definitions:

“off hours”

Time when the Water Systems Group is not normally at BNL.

“make-up”

The addition of water to a cooling system.

“dicom system”

The Water Systems Group alarm system located in the main control room.

“water systems PC”

Located on the multi-function PC in the center of the control room.

“alarm reset”

A reset button located on the screen of the “water systems PC” for the system that had a “make-up” alarm.

2 **Responsibilities:**

2.1 MCR Operators, Collider-Accelerator Support (CAS) Technicians, and Water Systems Group Technicians, are responsible for following this procedure.

2.2 Follow this procedure and fill in the attachment if make-up is observed in “Systems Covered by this Procedure” below.

Systems Covered by this Procedure:

- 2.2.1 C-A Main Magnet System – B911, B913, B928
- 2.2.2 Fast Quad System – B911TE, B913, “18” houses
- 2.2.3 C-A Power Amplifier System – B911TE, B913
- 2.2.4 SEM System – B912, B913, B912A
- 2.2.5 RF Cavity System – B928, B913
- 2.2.6 Booster Magnet System – B914, B942, B913
- 2.2.7 Booster RF System – B914, B942
- 2.2.8 G-2 System – B919
- *2.2.9 V-Target

- 2.2.10 C-Line System B912
- *2.2.11 Linac Transport System – B930, B930A, HEBT
- *2.2.12 Linac Cavity Systems – B930, LEBT
- *2.2.13 F-10 Cooling System – B932, B913
- *2.2.14 Beam Stop Cooling System – B946, B942
- *2.2.15 RHIC Injection Cooling System – B1000P, u,x,y & w lines, B1005E, B1007W
- 2.2.16 RHIC RF Cavity Cooling System – B1004
- *2.2.17 C-A Chilled Water System – B911, B913, B914, B912, and Fan Houses
- 2.2.18 NSRL Magnet Cooling System – B957, B956

* Make-up gallon totals and “make-up” alarm reset not available presently.

2.3 The Water Systems Group Leader is responsible for retaining the completed checklists.

2.4 The Radiological Control Division (RCD) is responsible for performing radiological evaluations and implementing controls.

2.5 The C-A Environmental Coordinator is responsible for determining the ultimate disposition of the cooling water.

3. **Prerequisites:**

3.1 Training in C-A Operations Procedure, [C-A-OPM-ATT 2.19.a "Checklist for Response to Water "Make-Up" Alarms"](#).

4. **Precautions:**

4.1 Appropriate radiological controls and permits shall be addressed prior to entry into radiological area.

5. **Procedure:**

5.1 If water "make-up" is observed, or if a "make-up" alarm is received on the “dicom alarm system” during normal working hours, call the Water Systems Group Watch (pump room 2), or the Water Systems Group Leader, on extension 4668, or pp.#4250. Water Systems Group personnel will fill out the attachment ([C-A-OPM-ATT 2.19.a](#)).

5.2 If water "make-up" is observed, or if a make-up alarm is received on the “dicom alarm system” during off hours, complete the attachment ([C-A-OPM-ATT 2.19.a](#)).

6. **Documentation:**

The Water Systems Group Leader will retain all completed checklists.

7. **References:**

[C-A-OPM-ATT 10.1.d “Operator Response to Water Spills”.](#)

8. **Attachments:**

[C-A-OPM-ATT 2.19.a “Checklist for Response to Water "Make-Up" Alarms”.](#)